The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KENTAROU ARAI

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Appeal No. 2000-2115
Application No. 08/633,564

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HEARD: March 7, 2001

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Before McCANDLISH, Senior Administrative Patent Judge, FRANKFORT, and LAZARUS, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 and 2, all of the claims pending in this application.

Appellant's invention relates to a front-wheel-drive and rear-wheel-drive vehicle in which one of either a set of front wheels or a set of rear wheels are driven by an engine (e.g., an internal combustion engine) and the other set of wheels thereof is driven by an electric motor, wherein the electric motor is intended to automatically operate to assist the starting (i.e., initial movement) of the vehicle on a road surface having a low coefficient of friction, such as on a slippery snowy road, only when the wheels driven by the engine slip and the torque at those wheels becomes small (i.e., when the actual driving torque at the wheels driven by the engine falls below a predetermined low level). Of importance to appellant is the need that inefficient operation of the electric motor be prevented so that a relatively inexpensive direct-current (DC) brush motor can be used, with no problem in its durability. A correct copy of claims 1 and 2 on appeal is attached to this decision.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Shea	4,180,138	Dec. 25, 1979
Kawakatsu	4,335,429	Jun. 15, 1982
Ito et al. (Ito)	5,225,982	Jul. 6, 1993
Kriegler et al. (Kriegler)	5,492,189 (filed Nov. 22, 1994)	Feb. 20, 1996

In addition to the above-noted prior art references, the examiner has also relied upon an admission of prior art found at page 7, lines 9-24, of appellant's specification.

Claims 1 and 2 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention.

Claims 1 and 2 additionally stand rejected under 35 U.S.C.

§ 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention.

In addition to the foregoing rejections under § 112, the appealed claims also stand rejected under 35 U.S.C. § 103 as follows:

a) Claims 1 and 2 as being unpatentable over Shea in view of either Ito or Kawakatsu, and

b) Claims 1 and 2 as being unpatentable over Shea in view of appellant's admitted prior art (APA) (specification, page 7, lines 9-24) or Kriegler.

Rather than reiterate the examiner's full statement of the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellant regarding those rejections, we make reference to the examiner's answer (Paper No. 22, mailed June 14, 2000) for the examiner's complete

reasoning in support of the rejections, and to appellant's brief (Paper No. 21, filed November 1, 1999) for appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by appellant and the examiner. As a consequence of our review we have reached the determinations which follow.

As a preliminary matter, we note that appellant (brief, page 5) has grouped claims 1 and 2 as standing or falling together. Accordingly, in discussing the issues on appeal we focus particularly on representative independent claim 1.

Looking first to the examiner's rejection of the appealed claims under 35 U.S.C. § 112, first paragraph, we understand this rejection to be based on lack of enablement. The first

paragraph of 35 U.S.C. § 112 requires, inter alia, that the specification of a patent enable any person skilled in the art to which it pertains to make and use the claimed invention. Although the statute does not say so, enablement requires that the specification teach those in the relevant art to make and use the invention without "undue experimentation." In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). That some experimentation may be required is not fatal; the issue is whether the amount of experimentation required is "undue." Id. at 736-37, 8 USPQ2d at 1404.

In this particular instance, after considering appellant's disclosure as a whole and reviewing the claims in light of the specification (In re Sneed, 710 F.2d 1544, 2548, 218 USPQ 385, 388 (Fed. Cir. 1983)), we find that the specification would permit one skilled in the art to make and use appellant's claimed subject matter without undue experimentation. More particularly, without commenting on the embodiment of the invention seen in Figure 1 of the drawings and the driving torque detecting circuit (15) seen therein, we note that on page 7 of the specification appellant has

provided disclosure of an alternative embodiment of the invention that is not shown in the drawings. In this alternative embodiment, it is noted that "a torque sensor may be mounted on a shaft of the front wheels 1 to thereby directly detect the driving torque of the front wheels 1" (page 7, lines 20-24). With the sensors for detection of the driving torque of the front wheels serving as the "means for detecting a driving torque of the set of engine-driven wheels" set forth in claim 1 on appeal and providing an input to the "control means" set forth in claim 1, we conclude that one skilled in the art could readily make and use the claimed invention without undue experimentation.

Since our review of appellant's specification reveals adequate guidance to enable the skilled artisan to make and use the claimed invention without undue experimentation, it follows that the examiner's rejection of claims 1 and 2 under 35 U.S.C.
§ 112, first paragraph, as being directed to a non-enabling disclosure will not be sustained.

Turning to the examiner's rejection of claims 1 and 2 under 35 U.S.C. § 112, second paragraph, we note that the examiner's first concern (answer, page 4) is that the specification does not define any value for the relative terms "high" and "low" coefficient of friction. Our review of the specification, however, reveals that these relative terms are reasonably set forth therein as relating to a high coefficient of friction road surface, such as a dry conventional asphalt road surface, while the low coefficient of friction is understood to be that which would be encountered on a slippery, snowy road or on ice. Moreover, we fail to see the relevance of the examiner's focus on the terms "high" and "low" coefficient of friction in rejecting claims 1 and 2 on appeal under 35 U.S.C. § 112, second paragraph, since those particular terms do not appear in the claims on appeal. As for the examiner's further concern (answer, page 5) about the terminology "predetermined value," "predetermined level" and "lower limit value," we consider that one of ordinary skill in the art would have no problem understanding these terms and their relevance to the claimed subject matter when such are considered in light of appellant's specification, and

therefore conclude that the scope of the subject matter embraced by appellant's claims on appeal is reasonably clear and definite, and fulfills the requirements of 35 U.S.C. § 112, second paragraph. See, for example, pages 3 and 4, and pages 8 and 9 of appellant's specification. Concerning the examiner's additional comments relating to claim 2 on appeal, we fail to see that the issues pointed to by the examiner in any way create a problem under 35 U.S.C. § 112, second paragraph. It is our opinion that when the questioned language of claims 1 and 2 on appeal is read in light of appellant's specification as it would be interpreted by one of ordinary skill in the art, the skilled artisan would reasonably understand the scope and content of appellant's claims on appeal. Accordingly, we will not sustain the examiner's rejection of claims 1 and 2 under 35 U.S.C. § 112, second paragraph.

We next look to the examiner's prior art rejections of appealed claims 1 and 2 under 35 U.S.C. § 103 as being unpatentable over Shea in view of Ito or Kawakatsu, and also as being unpatentable over Shea considered in view of the APA

(Spec., Page 7, lines 9-24) or Kriegler. Like appellant (brief, pages 12-14), we observe that Shea, the secondary references, and the APA relied upon by the examiner may disclose certain individual components of the claimed subject matter (e.g., a vehicle having both front-wheel-drive and rear-wheel-drive as broadly set forth in the preamble of claim 1 on appeal (Shea) and certain torque detecting or calculating means), but neither the secondary references, the APA, nor Shea provide any teaching or suggestion that such known elements from such disparate systems can or should be combined in a manner so as to result in appellant's claimed subject matter. In this regard, we view the examiner's attempt to combine the applied prior art in the manner asserted in the examiner's answer (pages 5-8) to be a clear example of the examiner utilizing appellant's own disclosure in the present application as a blueprint for piecing together unrelated components of the various references and APA. Having concluded that the examiner has engaged in a hindsight reconstruction of appellant's claimed subject matter, it follows that we will not sustain either of the examiner's grounds of rejection under 35 U.S.C. § 103.

To summarize our decision, we note that the examiner's rejections of appealed claims 1 and 2 under 35 U.S.C. § 112, first paragraph, and under 35 U.S.C. § 112, second paragraph, have been reversed. Both of the examiner's rejections of the appealed claims under 35 U.S.C. § 103 have likewise been reversed.

REVERSED

HARRISON E. McCANDLISH Senior Administrative Patent Judge	)	
CHARLES E. FRANKFORT Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
RICHARD B. LAZARUS Administrative Patent Judge	)	

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CLAIM 1

1. A front-wheel-drive and rear-wheel-drive vehicle in which one of either a set of front wheels or a set of rear wheels are driven by an engine and the other set of wheels thereof are driven by an electric motor, wherein said electric motor is operated when said vehicle starts, said vehicle comprising:

means for detecting a driving torque of the set of engine-driven wheels; and

control means for prohibiting operation of said electric motor when the driving torque detected during start-up of said vehicle exceeds a predetermined value.

CLAIM 2

2. A front-wheel-drive and rear-wheel-drive vehicle according to claim 1, wherein said predetermined value is set to a lower limit value of the driving torque applied to the set of engine-driven wheels at vehicle start-up only by the drive of the set of engine driven wheels [sic, at] an acceleration above a predetermined level.